

Lessons Learned

Implementing a clinical information system can offer a rich education.

by **John P. Glaser**

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Over the past 15 years, I've had the privilege of watching many clinical information systems being put into action. As CIO, I've led and been dragged along by teams implementing electronic medical records, provider order entry, picture archiving and communications systems, clinical data repositories, knowledge repositories, clinical decision support and telemedicine systems. These teams were successful despite occasionally bumpy journeys. And along the way, team members taught me numerous essentials about implementing clinical information systems.

The link between IT strategy and organizational strategy is complex and imperfect. In an ideal world, the link between a clinical information system agenda and the organization's strategy would be comprehensive and unambiguous. But I've never seen such a thing.

The clinical information system agenda results from a complicated set of clear links to portions of the strategy, the political throw-weight of certain clinical and administrative leaders, instinct, reactions to regulations and perceived threats, a desire to keep pace with rivals, and raw vision and beliefs about the direction of the world.

These variables have always been with us and are likely to continue. Managing them requires political skill on the part of organizational and IT leaders, a willingness to listen and make compromises, and recognition that despite the less-than-perfect alignment of strategies, significant progress can be made.

Talented and committed leadership has extraordinary value. Board members, CEOs, CFOs, CMOs, CNOs and other members of the medical and administrative staff leadership teams who are smart, honest, seasoned, committed and respectful of the healthy exchange of different ideas are a treasure. A treasure that is not as common as it should be.

Such leaders want to participate in clinical information system discussions. They value data that illustrates the nature of the problems to be addressed, the opportunities and the impact of the system. This data can be exceptionally helpful in sustaining leaders' commitment and helping them, and the organization, continue to learn about the value of clinical information systems.

Once good leaders are committed to a path, they have the strength to thoughtfully stay the course. They ask the hard questions, they're pragmatic, and they're practitioners of the art of the possible.

Clinical information systems can deliver great value. Medical errors can be reduced. Clinical research and clinical decisions, quality measurement and improvement efforts can be enhanced. Patient service can be improved. Costs can be decreased and, at times, revenue can be increased. Physician and healthcare professionals' work lives can be more productive, effective and convenient.

This value is often impossible to quantify in terms of dollars and cents, and it is multifaceted, making comparison with clinical information system investments difficult. Plus, most organizations are not very good at "harvesting" the value they believe they'll obtain from clinical information system investments. Too often, organizations do not follow up after implementation to see whether intended value actually materialized.

Moreover, there are many factors that can impede organizations' ability to realize value, such as fuzzy goals, poor management of implementations, and failure to put someone in charge of achieving the value. We should know better by now.

Despite the complexities of the value proposition, there is no question that clinical information systems can help provide significant improvements in patient care and organizational effectiveness.

Making physicians, nurses and other healthcare professionals members of the IS team is essential to progress. These providers bring a deep understanding of the culture, language, professional image, workflow and issues surrounding the day-to-day lives of caregivers. Provider members of the IS team are often great managers, analysts, project leaders, designers, implementers and developers. The field of medical informatics and its members bring a wealth of thought, analysis, experimentation results and intellect to the complex challenges that confront efforts to implement and leverage clinical information systems. Becoming members of that community, establishing links to it, staying informed of its progress and, as appropriate, contributing to its knowledge base immeasurably strengthen everyone's efforts.

Great clinical information system teams have certain characteristics. Talent and experience among members is diverse, and these teams exhibit that diversity. Individual team members may be great managers, analysts, developers, trainers or designers.

Teams become teams in an IS department and an organizational context that rewards and values teamwork. They share successes and when confronted with problems figure out how to overcome them--as a team. They have open and honest dialogues among themselves and with their provider customers. They don't try to sugarcoat difficulties but use finesse to handle complicated, perhaps volatile, situations.

Great teams have stamina and focus, with clear roles, agreed-upon project methodologies, and supportive IS and user management serving as a foundation.

First-rate implementations require skill, talent and experience in a few critical areas. Implementation planning must be thorough, responsive and careful and workflow thoroughly understood. Re-engineering may be required at times--of workflow or applications.

A solid and effective relationship must be established with users, one that ensures realism about the systems and the changes they will bring. Shared goals and a mutual interest in learning from each other characterize this relationship.

Support is the factor that causes an application to "stick," to become an integral part of the practice. Support includes training, responsiveness, appropriate enhancements and ongoing communication--with discussions of status, problems, evolution of work, and clinical policies and procedures.

Design, implementation and support of infrastructure matters. Clinical information systems must have a technical foundation that is reliable, high performance, secure, supportable and adaptable. The infrastructure (e.g., servers, operating systems, networks) must be well architected and well managed. Few things can cripple a clinical information system as quickly as a slow or unreliable infrastructure. And few things are as damaging to the credibility of an IS organization as a wounded infrastructure.

The applications must also be well architected and managed. Applications must be capable of enhancement or augmentation with new technologies to keep up with clinical workflow and evolution of organizations and patient care. Poorly architected applications may not cripple as rapidly as an infrastructure that crashes routinely, but they do cripple.

Back to school

I'm sure I'll learn more (and undoubtedly relearn some lessons) over the course of the next 15 years. But I hope the lessons I've learned (mostly from corporate director of clinical systems management at Partners HealthCare, Cindy Spurr, R.N., M.B.A., and her teams) are helpful to the collective efforts of healthcare providers, administrators, IS teams and others intent on improving the care we deliver and the organizations we serve.

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Editors Note: Are you a healthcare provider with IT insights, experiences, or observations to share with our readers? Go to <http://www.healthcare-informatics.com/print.htm> for the details on how to submit a story for our Commentary section.

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